EFFICACY REVIEW

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FILE OR REG. NO. 432-ILT

PETITION OR EXP. PERMIT NO.

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TYPE PRODUCT(S): (I,)D, H, F, N, R, S

DATA ACCESSION NO(S). 448747-01,-02,-03,-04,-05,-06,-07 & -08; D258163; S566016; Case# 063620; AC:161

PRODUCT MGR. NO. 03-Layne/Leahy

PRODUCT NAME(S) DeltaGard® 200 RTU Insecticide

COMPANY NAME AgrEvo Environmental Health

SUBMISSION PURPOSE Provide performance data in support of claims for killing and residual action up to 4 months against crawling insects and other arthropods.

CHEMICAL & FORMULATION Deltamethrin 0.02%
(8.26 lbs./gal. ready-to-use liquid spray)

CONCLUSIONS & RECOMMENDATIONS The data presented in EPA Accession (MRID) Number 448747-01, having been obtained from a standard laboratory test conducted according to requirements of § 95-11(b)(1) through (7) on p. 268 and meeting the standard of § 95-11(c)(2)(ii) subpart (A)(a) on p. 270 of the Product Performance Guidelines, are adequate to demonstrate the ability of the subject formulation to kill male German cockroach, *Blattella germanica*, both rapidly as indicated by 90% knockdown in <27 min. at 1 day, in >15 min. at 1 week, in <20 min. at 4 weeks, and residually as indicated by 100% knockdown in 60 min. at 10 and 14 weeks and by 100% mortality at 24 hours throughout the test period of exposure to residues on glass plates aged from 1, 7 and 30 days to 10 and 14 weeks after treatment. These data are adequate to support a control claim for this pest when combined with data previously reviewed for a concentrate solution diluted to this same degree to produce a residual deposit of 7.5 mg per sq. meter on plywood and filter paper; and data in MRID No. 448747-05 in which 1.0 gm of the subject formulation was sprayed directly on male German cockroaches and produced a knockdown of 90% in <37 min. and complete mortality at (to be continued)

25hr.

24 hours. Together with data previously reviewed for similar deposits to which American cockroach, *Periplaneta americana*, had been exposed, these collective data are adequate to support a general [illegible]roach claim for the subject product and to extend that claim to [illegible]eeks [4 months, 120 days]. Data presented in MRID No. 448747-[illegible] having been obtained from standard laboratory tests meeting the same requirements and standard are adequate to demonstrate the ability of the subject formulation to kill carpenter ants, *Camponotus* sp., both rapidly as indicated by 100% mortality following exposure to residues on vinyl tile for 3 min. and residually as indicated by 100% mortality following exposure to residues aged up to 4 weeks. Mortality fell off markedly to 51% when ants were exposed to residues aged 8 to 16 weeks for 3 min. In the same test, exposure of ants to initial residues on concrete blocks for 3 min. produced 79% mortality, while those that were only 1 week old fell to 5%. Data presented in MRID No. 448747-03, having been obtained from standard laboratory tests meeting the same requirements and standard are adequate to demonstrate the ability of the subject formulation to kill pharoah ant, *Monomorium pharaonis*, red imported fire ant, *Solenopsis invicta*, and crazy ant, *Paratrechina longicornis*, on vinyl tile and on concrete plates both initially and residually for 1 week. After 1 week, there is a rapid dropoff in effectiveness with both substrates and all 3 ant species, falling to below 70% mortality when test insects were exposed to residues aged 1 month. Surprisingly, there was a rebound in effectiveness in residues aged 2 and 3 months on vinyl tile up to the level of control, but not on concrete, where effectiveness continued to decrease. Data presented in MRID No. 448747-04, having been obtained from standard laboratory tests meeting the same requirements and standard are adequate to demonstrate the ability of a similar formulation of lower concentration than the subject product to produce rapid knockdown of the following 5 ant species: the pharaoh ant, *M. pharaonis*, little black ant, *M. minimum*, false honey ant, *Prenolepsis imparis*, red imported fire ant, *S. invicta*, and *Tetramorium bicarinatum*, both when sprayed directly and also when exposed to residues aged 1 week on vinyl tile. In addition, pharaoh ants, red imported fire ants and *T. bicarinatum* were exposed to residues aged 30 days on vinyl tile, resulting in the same rapid knockdown. Data presented in MRID Nos. 448747-05 and 448747-06, which are identical, have previously been discussed in connection with German cockroach; these data also demonstrate the ability of the subject product to produce 90% knockdown of carpenter ants in 17 min. and of crickets in 35 min. by direct spray, and resulting total mortality at 24 hours. Data presented in MRID No. 448747-07, having been obtained from standard laboratory tests meeting the same requirements and standard are adequate to demonstrate the ability of the subject product to produce 90% knockdown of cat flea, *Ctenocephalides felis*, in 15 min. and 90% mortality at 0 days after treatment, >90% at 1 week; 60% knockdown at 15 min., and 60% mortality at 1 month after treatment; >90% knockdown at 15 min., and 60% mortality at 2 months; 3-month-old (to be continued)

residues produced <20% knockdown at 15 min., and 40% mortality at 24 hours. All these exposures were on carpeting. Finally, data presented in MRID No. 448747-08, having been obtained from standard laboratory tests meeting the requirements of § 95-11(b)(1) through (7) on p. 268 and the standard of § 95-11(c)(2)(ii)(B)(a) on p. 270 of the Guidelines, are adequate to demonstrate the ability of the subject product to produce >90% knockdown of house fly adults of mixed sexes after 30 min. when exposed to 5-month-old residues on both ceramic tile and concrete, and total knockdown after 60 min. There was some recovery, however, as 24-hour mortality was only 46% on ceramic and 77% on concrete. Previously reviewed data on the concentrate solution diluted to this same concentration supports the 4-month residual claim for this and other flying insects.

The collective data submissions in the 8 volumes are adequate to support the following claims on the labeling for the subject product: "Kills On Contact", "Kills Fast", "Long-Lasting", "Keeps Killing for Up to 4 [8, 12, 16] Weeks", "Keeps Killing for Up to 1 [2, 3, 4] Months", "Keeps Killing for Up to 30 [60, 90, 120] Days", "Kills Fleas...", "Kills Roaches, Ants and Fleas on Contact". In addition, the following claims are supported by existing deltamethrin product registrations: "Powerful Killing Action", "Contains Deltamethrin - the highly active third generation pyrethroid", "Contains DeltaGard", "For Use In and Around Horse Stables", "For Use on House Plants", "For Use on Ornamental Plants", "Kills Spiders, Centipedes and Scorpions", "Kills Pantry Pests", "Kills Plant Pests", "Kills Aphids, Mealybugs, Lacebugs, Thrips, Leafminers and Mites", "Kills Spider Mites" and "Kills Japanese Beetles". There is a difficulty with the claims for ticks in that the lowest concentration for which we have effectiveness data is 50% higher than that in the subject product. Furthermore, existing registrations use a concentration that is 3X that in the subject product to control ticks.

We note that, according to REFS, there are no present registrations of deltamethrin for the following pest claims: booklice, dermestids, palmettobugs, stable flies, horn flies, face flies, horse flies, deer flies, chocolate moth, cluster flies, mud daubers. Based on existing deltamethrin registrations for whiteflies on cotton, we have no comment on the whitefly claim in connection with ornamental plants.

RL Vern L. McFarland, IB